REMARKS

Applicant is in receipt of the Office Action mailed May 13, 2009. Claims 16 and 17 have been cancelled. Claims 1, 13, 14, 15, 18, 19, 20, 24, 28, 29, and 30 have been amended. Claims 1, 4, 6, and 8-15, and 18-30 are pending in the case. Reconsideration of the present case is earnestly requested in light of the following remarks.

Claim Amendments

Applicant has amended the independent claims to more clearly and distinctly claim embodiments of the invention. As amended, the independent claims recite that the block diagram of the graphical program is transmitted from the PDA to the embedded sensor device over a serial link, and that the GUI portion of the graphical program is not transmitted to the embedded sensor device, where the block diagram is executed on the embedded sensor device, and the GUI portion is executed on the PDA (host computer). Support for these amendments can be found at least in p.42:14-19 and p.43:3-8 and 20-28.

Section 102 Rejections

Claims 1, 4, 6, and 8-30 were rejected under 35 U.S.C. 102(e) as being anticipated by Gelvin et al (US Pat. 7,020,701, "Gelvin"). Applicant respectfully disagrees.

Amended claim 1 recites:

1. A computer-implemented method for programming an embedded sensor device, the method comprising,

creating a graphical program, wherein the graphical program specifies a function to be performed by the embedded sensor device, wherein the graphical program comprises a block diagram that includes a plurality of interconnected nodes or icons which visually indicate the functionality of the program, and a graphical user interface (GUI) portion implementing a GUI for displaying information from the program or providing user input to the program, and wherein the embedded sensor device comprises one or more sensors, and wherein the embedded sensor device does not include a display;

storing the graphical program on a personal digital assistant (PDA);

transmitting the block diagram of the graphical program from the PDA to the embedded sensor device over a serial link, wherein after said transmitting, the embedded sensor device is operable to execute the block diagram of the graphical program to perform the specified function, and wherein the GUI portion of the graphical program is not transmitted to the embedded sensor device;

the embedded sensor device executing the block diagram to perform the function, wherein the embedded sensor device executing the block diagram generates data;

the embedded sensor device sending the data to the PDA; and

the PDA executing the GUI portion to display the data in the GUI.

The cited art fails to teach or suggest **creating a graphical program, wherein the graphical program specifies a function to be performed by the embedded sensor device, wherein the graphical program comprises a block diagram that includes a plurality of interconnected nodes or icons which visually indicate the functionality of the program, and a graphical user interface (GUI) portion implementing a GUI for displaying information from the program or providing user input to the program**, as recited in claim 1.

Cited col.10:55 mentions a local display and user interfaces for interaction of local users via nodes in the network, but in no way discloses a graphical program as defined in claim 1.

Cited col.10:43-67 describes Figures 8 and 9, which show embodiments of a WINS NG network, but does not disclose a graphical program as defined in claim 1, specifically, where the graphical program comprises a plurality of interconnected nodes or icons which visually indicate the functionality of the program. Exemplary graphical programs are illustrated in Figures 21– 23B of the present application, clearly showing exemplary nodes and their interconnections.

Applicant respectfully submits that one of skill in the programming arts readily understands the difference between a program that has a graphical user interface and a

graphical program as claimed, i.e., where the graphical program includes a block diagram that includes a plurality of interconnected nodes or icons which visually indicate the functionality of the program, and a graphical user interface (GUI) portion implementing a GUI for displaying information from the program or providing user input to the programand submits that the cited art fails to disclose creating a graphical program, and in fact, fails to even mention or hint at such a program, much less a graphical program that specifies a function to be performed by the embedded sensor device. Moreover, the programming language referred to in the reference (see, e.g., col.17:32-63) is WINS Basic, which is never described as a graphical programming language.

Thus, the cited art fails to disclose these features of claim 1.

The cited art also fails to teach or suggest **storing the graphical program on a personal digital assistant (PDA); transmitting the block diagram of the graphical program from the PDA to the embedded sensor device over a serial link wherein the GUI portion of the graphical program is not transmitted to the embedded sensor device, and wherein after said transmitting, the embedded sensor device is operable to execute the block diagram of the graphical program to perform the specified function**, as recited in claim 1.

First, Applicant notes that since Gelvin fails to disclose a graphical program, Gelvin does not, and cannot, disclose storing a graphical program on a PDA, as claimed. Additionally, while cited col.11:35 discloses a client computer that may include a PDA, Applicant notes that, per Gelvin, the client computer executes software (e.g., WINS Basic programs) to remotely control/manipulate or program network nodes, but is nowhere described as transmitting a block diagram of a graphical program to an embedded sensor device, nor, more particularly, over a serial link (for execution by the embedded sensor device to perform the specified function). Cited col.10:49 (and surrounding text) makes no mention of transmitting a block diagram of a graphical program from the PDA to an embedded sensor device over a serial link, but rather, states that "The sensor nodes 802 include any combination of actuators, sensors, signal processors, energy or power supplies, data storage devices, wireless communication devices, wireline communication devices, and self-location capabilities", which clearly fails to teach this feature.

Regarding the feature "wherein after said transmitting, the embedded sensor device is operable to execute the block diagram of the graphical program to perform the specified function", Applicant respectfully submits that cited col.10:27 – col.11:46 discusses remote programming of sensor nodes, e.g., via a client computer (which may be a PDA), and downloading software (presumably for the sensor nodes) from storage locations in the sensor node network, or via the Internet from remote user locations or databases. However, this text does not disclose transmitting a program (portion, i.e., a block diagram of a graphical program) stored on the client computer (more particularly, a PDA) to a sensor node. In other words, Gelvin describes downloading programs (but not block diagrams of graphical programs) from network storage locations, or via the Internet from remote user locations or databases, but fails to disclose transmitting a block diagram of a graphical program from a PDA to an embedded sensor device, as claimed.

The cited art also fails to teach or suggest **the embedded sensor device executing the block diagram to perform the function, wherein the embedded sensor device executing the block diagram generates data; the embedded sensor device sending the data to the PDA; and the PDA executing the GUI portion to display the data in the GUI**, as recited in claim 1.

Nowhere does the cited art describe distributed execution of a graphical program as claimed, i.e., where the block diagram of the graphical program executes on an embedded sensor device, and the GUI portion of the graphical program, e.g., front panel code, executes on a PDA. In fact, the cited art doesn't disclose graphical programs as defined in the claim at all.

Applicant notes that while Gelvin discloses users interacting with nodes via user interfaces, e.g., to program or monitor the nodes (e.g., col.10:53-57), nowhere does Gelvin teach or even hint at execution of a GUI portion of a graphical program on a PDA to provide a GUI for the graphical program while the block diagram of the graphical program is executing on an embedded sensor device.

Thus, for at least the above reasons, the cited art fails to teach or suggest all the features of claim 1, and so claim 1, and those claims respectively dependent therefrom, are patentably distinct and non-obvious over the cited art, and are thus allowable.

Independent claims 28, and 30 each includes similar limitations as claim 1, and so the above arguments apply with equal force to these claims. Moreover, claim 30 includes the additional limitations of analyzing the graphical program, and converting the graphical program for transmission to the sensor interface device, which are certainly not taught by the cited art. Nor does the cited art teach a sensor interface device executing the converted block diagram of the graphical program and a hand-held computer receiving data from the sensor interface device during execution of the converted graphical program, and executing the GUI portion of the graphical program to display the received data on the display of the hand-held computer in the GUI, as claimed.

Claim 29 also includes many of the novel limitations of claim 1, but doesn't limit the program to a graphical program. Thus, relevant arguments presented with respect to claim 1 also apply to claim 29.

Thus, for at least the above reasons, Applicant submits that claims 28, 29, and 30, and those claims respectively dependent therefrom, are patentably distinct and non-obvious over the cited art, and are thus allowable.

Applicant also asserts that numerous ones of the dependent claims recite further distinctions over the cited art.

For example, nowhere does the cited art teach or suggest **wherein the embedded sensor device comprises a compact embedded sensor device between approximately 3cm x 3cm and approximately 6cm x 6cm**, as recited in claim 4.

Cited col.59:16-17 discloses a camera volume less than $20cm^3$, which may or may not satisfy the limitations of claim 4, since there are any number of length/width/height combination whose products are less than $20cm^3$, but which do not meet the cross-sectional constraint of between approximately 3cm x 3cm and approximately 6cm x 6cm.

Thus, for at least the above reasons Applicant respectfully submits that the cited art fails to teach or suggest all the features and limitations of claim 4, and so claim 4, and those claims respectively dependent therefrom are patentable distinct and nonobvious over the cited art, and are thus allowable.

As another example, nowhere does the cited art teach or suggest **wherein said creating the graphical program is performed on the PDA**, as recited in claim 6.

Cited col.10:49 discloses that sensor nodes include any combination of actuators, sensors, signal processors, energy or power supplies, data storage devices, wireless communication devices, wireline communication devices, and self-location capabilities, but says nothing about creating a graphical program on a PDA, nor creating any type of program on a PDA.

Thus, the cited art does not teach creating the graphical program on the PDA itself, as claimed. Thus, for at least the above reasons Applicant respectfully submits that the cited art fails to teach or suggest all the features and limitations of claim 6, and so claim 6, and those claims respectively dependent therefrom are patentable distinct and nonobvious over the cited art, and are thus allowable.

Nor does the cited art teach or suggest **wherein the wireless serial link comprises an infrared serial link**, as recited in claim 10, nor **wherein the infrared serial link comprises a short-range infrared serial link**, as recited in claim 11.

Cited col.18:44-45 discloses infrared sensors, but does not mention transmitting a block diagram from a PDA to an embedded sensor device via an infrared serial link, nor, more particularly, a short-range infrared serial link, as claimed.

Thus, for at least the above reasons Applicant respectfully submits that the cited art fails to teach or suggest all the features and limitations of claims 10 and 11, and so claims 10 and 11, and those claims respectively dependent therefrom are patentable distinct and nonobvious over the cited art, and are thus allowable.

Nor does the cited art teach or suggest **analyzing the graphical program for function dependencies to generate required modules; analyzing the graphical program to determine an execution sequence; and generating a flatfile based on the required modules and execution sequence, wherein the flatfile contains the functionality of the graphical program**, as recited in claim 13.

Cited col.18:1-18 discloses various development tools for developing in WINS Basic; however, nowhere does this citation, nor the cited art in general, mention

analyzing a graphical program for function dependencies at all, much less doing so to generate required modules, nor analyzing the graphical program to determine an execution sequence, nor generating a flatfile based on the required modules and execution sequence. In fact, no mention is made in the reference of a flatfile or functional equivalent at all.

Thus, for at least the above reasons Applicant respectfully submits that the cited art fails to teach or suggest all the features and limitations of claim 13, and so claim 13, and those claims respectively dependent therefrom are patentable distinct and nonobvious over the cited art, and are thus allowable.

As further examples, nowhere does the cited art teach or suggest **transmitting the flatfile to the embedded sensor device over the serial link**, as recited in claim 14, nor **the embedded sensor device processing the flatfile to generate an executable**, as recited in claim 15.

As mentioned above, neither reference even mentions a flatfile, and so the cited art does not, and cannot, teach these features. For example, cited col.18:1-18 makes no mention of a flatfile, nor transmitting a flatfile from a PDA to an embedded sensor device at all. Similarly, cited col.12:8-28 is directed to APIs for high level programming, and a preprocessor hardware device "that facilitates the separation between lower and higher level programming", but makes no mention of an embedded sensor device processing a flatfile to generate an executable.

Thus, for at least the above reasons Applicant respectfully submits that the cited art fails to teach or suggest all the features and limitations of claims 14 and 15, and so claims 14 and 15, and those claims respectively dependent therefrom are patentable distinct and nonobvious over the cited art, and are thus allowable.

Applicant also asserts that numerous other ones of the dependent claims recite further distinctions over the cited art. However, since the independent claims have been shown to be patentably distinct, a further discussion of the dependent claims is not necessary at this time.

Removal of the section 102(e) rejection of claims 1, 4, 6, and 8-30 is respectfully requested.

CONCLUSION

In light of the foregoing amendments and remarks, Applicant submits the application is now in condition for allowance, and an early notice to that effect is requested.

If any extensions of time (under 37 C.F.R. § 1.136) are necessary to prevent the above-referenced application(s) from becoming abandoned, Applicant(s) hereby petition for such extensions. The Commissioner is hereby authorized to charge any fees which may be required or credit any overpayment to Meyertons, Hood, Kivlin, Kowert & Goetzel P.C., Deposit Account No. 50-1505/5150-80501/JCH.

Also filed herewith are the following items:

☒ Request for Continued Examination

☐ Terminal Disclaimer

☐ Power of Attorney By Assignee and Revocation of Previous Powers

☐ Notice of Change of Address

☐ Other:

Respectfully submitted,

/Jeffrey C. Hood/

Jeffrey C. Hood, Reg. #35198
ATTORNEY FOR APPLICANT(S)

Meyertons, Hood, Kivlin, Kowert & Goetzel PC
P.O. Box 398
Austin, TX 78767-0398
Phone: (512) 853-8800
Date: 2009-06-24 JCH/MSW